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(54) **CMC AIRFOIL WITH COOLING CHANNELS**

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CPC ***F01D 5/188*** (2013.01); ***F01D 5/282*** (2013.01); ***F01D 9/02*** (2013.01); *F05D 2240/12* (2013.01); *F05D 2260/221* (2013.01); *F05D 2300/6033* (2013.01)

(58) **Field of Classification Search**
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See application file for complete search history.

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(57) **ABSTRACT**

An airfoil may be provided that includes a CMC body and a support piece. The CMC body has an inner surface that defines a chamber within the CMC body. The support piece may be positioned within the chamber of the CMC body. The support piece comprises a channel in a surface of the support piece, the surface being in contact with the inner surface of the CMC body. The channel and the inner surface of the CMC body define a passageway for a cooling fluid. The passageway may wind about the circumference of the CMC body and extend along the span of the airfoil. Outlets may be positioned through the CMC body allowing fluid communication between the passageway and the outer surface of the CMC body.

18 Claims, 4 Drawing Sheets